

## REMARKS

In an Office Action mailed April 8, 2008, claims 1-17 and 19-20 were rejected under 35 U.S.C. 103(a) over U.S. Patent No. 6,236,847 (Stikvoort) in view of U.S. Patent No. 6,529,100 (Okanobu), and claims 21-38 were rejected under 35 U.S.C. 103(a) over U.S. Patent No. 7,251,298 (Hietala) in view of Stikvoort and in further view of Okanobu.

Regarding the rejection of claims 1-17 and 19-20, the Examiner reasoned generally that Stikvoort discloses a polyphase filter section with two sections separated by a buffer, and Okanobu shows a multiple stage polyphase filter. The Examiner also concluded:

It would have been obvious to one of ordinary skill in the art to implement the teaching of Okanobu and Stikvoort as to determine on the amount of attenuation required for suppressing the image signal components and specific band as taught by Okanobu (see col.7, lines 60-67).

However, this conclusion fails to address a specific limitation of claims 1, 10, and 16: “wherein resistances of resistors of each preceding stage of said at least three polyphase filter stages are related to resistances of corresponding resistors of a succeeding stage of said at least three polyphase filter stages by a predetermined ratio.”

The U.S. Supreme Court has made it clear that to sustain a prior art rejection based on obviousness, the Examiner must make an “explicit” analysis that contains some “articulated reasoning”, and cannot sustain a rejection by “mere conclusory statements.” KSR International Co. v. Teleflex Inc., 550 U.S. \_\_\_\_ (2007) 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385, citing with approval In re Kahn, 441 F.3d 977, 998 (Fed. Cir. 2006). See also MPEP § 2142.

Okanobu does not disclose the specific limitation. The passage the Examiner cites at col. 7 of Okanobu only relates to the number of stages, not to the resistance of resistors in each stage. Okanobu states at col. 7, lines 61-63:

The *number of the stages* of the polyphase filter 17 is determined based on the amount of attenuation required for suppressing the image signal components and specific band.

(emphasis added).

In fact, Okanobu teaches the opposite of this limitation. In col. 8, lines 3-11 Okanobu discloses preferred ratios of resistors between the stages of the polyphase filter:

$$\begin{aligned} R_{11} &= R_{21} = R_{31} = R_{41}; \\ R_{12} &= R_{22} = R_{32} = R_{42}; \\ R_{13} &= R_{23} = R_{33} = R_{43}; \\ R_{14} &= R_{24} = R_{34} = R_{44}; \\ R_{15} &= R_{25} = R_{35} = R_{45}; \text{ and} \\ R_{11}:R_{12}:R_{13}:R_{14} &= 1:2:4:4:8. \end{aligned}$$

(emphasis added). Thus a polyphase filter having the claimed limitation would not have been obvious to one of ordinary skill in the art in view of Stikvoort and Okanobu.

In summary, the Examiner has failed to make out a *prima facie* case of obviousness because an explicit limitation is missing. The Office Action did not contain articulated reasoning why the resistances of resistors in preceding stages would be related to those in succeeding stages by a predetermined ratio, and thus why the claimed polyphase filter would have been obvious to one of ordinary skill in the art in view of Stikvoort and Okanobu.

The other independent claims, claims 21 and 33, also recite the same limitation, however the additional Hietala reference also fails to show or suggest this missing limitation. Thus, claims 21-38 are likewise allowable over the prior art.

## CONCLUSION

Thus Applicant respectfully submits that claims 1-17 and 19-38 are allowable over the prior art of record for the reasons more particularly set forth above. Applicant respectfully requests the reconsideration of the rejection of the pending claims and the allowance thereof, thereby placing the application in condition for allowance.

Respectfully submitted,

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Date

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